REMARKS

The Office Action

The Office Action sets forth the following grounds for rejection:

1. Claims 2, 3, 12, 15, 16, 19, 21, and 22 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Loria et al. (USP 5,443,628) and

2. Claims 3, 8, 9, 12-17, and 19-30 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Zhu et al. (US 2004/0110868).

Discussion of Obviousness Rejections

Claims 2, 3, 12, 15, 16, 19, 21, and 22 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Loria et al. The Office states that Loria et al. discloses various resins but specifically fails to exemplify the use of rosin ester resin. The Office contends that it would have been obvious to one of ordinary skill in the art to use the rosin ester to arrive at the claimed invention. Applicants respectfully disagree with the rejection. While Loria et al. discloses a laundry list of binder resins, there is no suggestion or pointer to using a combination of rosin ester resin and vinyl resin. Even none of the examples in Loria et al. identifies the specific combination of rosin ester resin and vinyl resin as in the presently claimed invention. Thus, there is no suggestion to those of ordinary skill in the art the presently claimed invention.

Moreover, applicants have shown, by means of the attached Declaration, the presently claimed invention has an unexpected and superior property compared to the ink composition of Loria et al. The finger nail scratch resistance (adhesion) of the presently claimed invention is superior to that of Loria et al.; see paragraphs 4-5 of the Declaration. This is an objective index of nonobviousness. The patent application, as originally filed, supports this advantageous property; see, for example, paragraphs [0015], [0023], [0039], and [0044], Examples 1-4, and Table 2. Applicants have also provided a scientific explanation for the superior property at paragraph [0023].

In view of the foregoing, the obviousness rejection over Loria et al. should be removed.

Claims 3, 8, 9, 12-17, and 19-30 are rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Zhu et al. While applicants disagree with the rejection, as Zhu et al. qualifies as prior art only under 35 USC 102(e), (f), or (g), applicants provide herein a statement of common ownership.

Statement of Common Ownership

Zhu et al. (US 2004/0110868) and the presently claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person, Videojet Technologies Inc.

In view of the foregoing, applicants respectfully submit that Zhu et al. should be removed as prior art under 35 USC 103(c), and the obviousness rejection should be removed.

Conclusion

The application is considered in good and proper form for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

Xavier Pillai, Ph.D., Reg. No. 39,799
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6780
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application No. 10/775,979

Applicant: ZHU et al.

Filed: February 10, 2004

TC/AU: 1755

Examiner: Veronica F. Faison

Docket No.: 226083 (Client Reference No. D-675)

Customer No.: 23460

Mail Stop
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132 FROM LINFANG ZHU, PH.D.

I, Linfang Zhu, hereby declare that:

1. I obtained a B.S. degree in 1985 in Chemical and Polymer Engineering from Tsinghua University in Bejing, China, and a Ph.D. degree in 1991 in Polymer Science from the University of Akron in Akron, Ohio. I was a post-doctoral research associate at the University of Chicago in Chicago, Illinois, from 1991 to 1992 and at Northern Illinois University, DeKalb, Illinois, from 1993 to 1994. I have been with Videojet Technologies Inc. (or its predecessor) in Wood Dale, Illinois, since 1994, and my present title is Lead Chemist. My areas of expertise include developing ink jet ink compositions.

2. I am a co-inventor of the above-identified application and I am familiar with the application and the pending claims.

3. Claims 2, 3, 12, 15, 16, 19, 21, and 22 stand rejected under 35 U.S.C. § 103(a), as allegedly unpatentable over Loria et al. (USP 5,443,628). Based on the experiments conducted under my supervision or direction, it is my opinion that the ink jet ink composition of the presently claimed invention has an unexpected or superior property compared to Loria et al.'s ink composition.

4. The following ink jet ink compositions were prepared. Examples 1-2 herein correspond to Examples 1-2 of the present invention illustrated in the patent application at page 10. Comparative Examples 1-3 correspond substantially to Example 1 herein except that the binder resins have been replaced with Loria's binder resins. Thus, Comparative Example 1 contains the Joncryl resin of Example 1 of Loria et al., Comparative Example 2 contains the silicone resin of Example 6 of Loria et al., and Comparative Example 3 contains both the Joncryl resin and the silicone resin.

Comparative Example 1		**Comparative Example 2**		**Comparative Example 3**		**Example 1**		**Example 2**
Methyl ethyl ketone	83.20%	Methyl ethyl ketone	83.20%	Methyl ethyl ketone	83.20%	Methyl ethyl ketone	83.20%	80.70%
Joncryl 682	11.30%	Dow Corning 233 Flake Resin	11.30%	Joncryl 682	8.00%	Staybelite Ester 10 resin (rosin ester resin)	8.00%	10.00%
Santicizer 160	1.00%	Santicizer 160	1.00%	Dow Corning 233 Flake Resin	3.30%	Vinyl resin (VMCH)	3.30%	3.30%
Orasol Black RLI	4.00%	Orasol Black RLI	4.00%	Santicizer 160	1.00%	Santicizer 160	1.00%	1.00%
Silwet L-7622	0.50%	Silwet L-7622	0.50%	Orasol Black RLI	4.00%	Orasol Black RLI	4.00%	4.50%
				Silwet L-7622	0.50%	Silwet L-7622	0.50%	0.50%
Total	100.00%	Total	100.00%	Total	100.00%	Total	100.00%	100.00%
Joncryl 50 disclosed by Loria et al. is a 50% solution of Joncryl 682 resin in water (neutralized by ammonia to make it water-soluble). Joncryl 682 is an acrylic resin.								
Dow Corning 233 Flake resin was previously Dow Corning Silicon Resin 6-2230								

5. The ink jet ink compositions were tested for finger rub adhesion, scotch tape adhesion, and finger nail scratch adhesion after printing on biaxially oriented polypropylene (BOPP) films, and the results obtained are set forth below.

Finger Rub Adhesion (tested 1 minute after printing)	**Comparative Example 1**	**Comparative Example 2**	**Comparative Example 3**	**Example 1**	**Example 2**
BOPP film 1	P	P	P	P	P
BOPP film 2	P	P	P	P	P
Scotch Tape Adhesion (tested 1 minute after printing)	**Comparative Example 1**	**Comparative Example 2**	**Comparative Example 3**	**Example 1**	**Example 2**
BOPP film 1	P-	P-	P-	P	P
BOPP film 2	F	F	F	P-	P-

Finger Nail Scratch Adhesion	Comparative Example 1	Comparative Example 2	Comparative Example 3	Example 1	Example 2
(tested 1 hour after printing)					
BOPP film 1	F (7)	F (6)	F (7)	P	P
BOPP film 2	F (1)	F (1)	F (1)	P	P
Dry time (seconds)	**Comparative Example 1**	**Comparative Example 2**	**Comparative Example 3**	**Example 1**	**Example 2**
BOPP film 1	2	2	2	2	2
BOPP film 2	2	2	2	2	2
P = pass 10 rubs for finger rub adhesion; pass 10 fingernail scratches for the finger nail scratch adhesion; pass a single scotch tape test					
P- = Partial ink removal to the scotch tape but ink code on the substrates is still legible.					
F = fail scotch tape test; F (x) = fail finger nail scratch test at x number of scratches					

The foregoing clearly shows that the ink jet ink compositions of the present invention have an unexpected and superior finger nail scratch resistance or adhesion.

6. I hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

3/14/07
Date

Linfang Zhu, Ph.D.